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EXAMINER

TUPPER, ROBERT S

ART UNIT

PAPER NUMBER

2652

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/796,660

Applicant(s)

OBA ET AL.

Examiner

Robert S Tupper

Art Unit

2652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 4-7 and 13-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8-12 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/8/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2652

1. Applicant's election with traverse of the species of FIG. 4, indicating claims 1-3, 8-12, and 20 readable thereon, in the reply filed on 10/4/04 is acknowledged. The traversal is on the ground(s) that there is no undue burden, and the search for the species overlaps. This is not found persuasive because it is in error. The multiple independent and dependent claims encompassing four species present such a range of structures and issues that there is a burden.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 4-7 and 13-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 10/4/04.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2652

4. Claims 1, 2, and 20 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by SCHIRLE (5,870,247).

Note figures 1-3. SCHIRLE shows a disk drive mounted in a computer with a cooling fan, the disk drive having a heat radiation device (38) attached to the outside of the disk drive. The heat radiation device is made of aluminum (see column 4 lines 23-24)(re claim 20) and contacts the disk drive through a thermally conductive strip (64), and includes a base (42) and fins (44).

5. Claims 1-3, 9, 10, 12, and 20 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by JIANG (6,637,719).

Note figures 1A, 1B, 3, 5A, 5B, 6, and 7. JIANG shows disk drives (625) mounted within a P-bay enclosure (700). The disk drive is mounted on a carrier (100) which includes a base (500) and fins (510). The carrier includes guide surfaces (220)(re claims 3 and 9) and stop (210)(reclaim10). The base is aluminum (see column 2 lines 37-39) (re claim 20).

6. Claims 1-3, 8-10, 12, and 20 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by WANG (5,844,747).

Note figures 1-3. WANG shows a disk drive (2) mounted on a carrier (6) within an enclosure (8). The carrier is aluminum (see column 2 lines 63-65)(re claim 20) and has a base (14) with fins (26). The carrier also includes guide surfaces (38) (re claims 3 and

Art Unit: 2652

9) and a stop (the end of the carrier)(re claim 10). Thermally conductive pads (44) are provided between the carrier and the disk drive (see column 4 lines 29-33)(re claim 8).

7. Claim 20 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by BOLOGNIA et al (6,373,696).

Note figures 10 and 15. BOLOGNIA et al shows a disk drive (72) mounted on a carrier (60) with a thermally conductive member (212) interposed in between.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over either JIANG (6,637,719) in view of WANG (5,844,747) or BOLOGNIA et al (6,373,696).

JIANG shows a disk drive enclosure system substantially as claimed. JIANG differs in not providing a conductive sheet between the disk drive and the base.

Both WANG and BOLOGNIA et al teach the use a conductive sheet between the disk drive and the carrier to improve heat transfer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the teaching of WANG or BOLOGNIA et al to JIANG and utilize a conductive sheet between the disk drive and the carrier. The motivation is as

Art Unit: 2652

follows: both to improve heat transfer WANG and BOLOGNIA et al teach this improves heat transfer.

10. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over JIANG (6,637,719) or WANG (5,877,747).

Both JIANG and WANG show a disk drive enclosure system substantially as claimed. JIANG differs in not showing a cooling fan within the system enclosure.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a cooling fan in JIANG or WANG. The motivation is as follows: the use of cooling fans within computer housings is very old and well known.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

LIN (5,927,386) shows another disk drive enclosure system with a fan and a carrier having fins.

PANDOLFI (6,434,000) shows a disk drive enclosure system with a heat pipe.

LIN (6,798,656) shows a disk drive enclosure system with front fins and an enclosed carrier.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert S Tupper whose telephone number is 703-308-

Art Unit: 2652

1601. The examiner can normally be reached on Mon - Fri, 6:00 AM - 3:30 PM (first Fri off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on 703-305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Robert S Tupper
Primary Examiner
Art Unit 2652

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